

Application Serial No. 10/695,337
Reply to Office Action of June 30, 2005

PATENT
Docket: CU-3418

Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1. (currently amended) A lamination product comprising at least [[of]] an outermost layer, a paper base, a barrier layer, and an innermost layer, layered in this order,

wherein the barrier layer is made of a coating film of a resin composition comprising a polyamide resin and an inorganic lamellar compound; and

wherein the innermost layer comprises an ethylene- α -olefin copolymer polymerized with a metallocene catalyst.

2. (currently amended) The lamination product according to claim 1, wherein each layer of the inorganic lamellar compound has a size in the planar direction within the range of 3 to 5000 nm, in a state that and the inorganic lamellar is subjected to delaminated completely delamination.

3. (original) The lamination product according to claim 1, wherein the thickness of each layer of the inorganic lamellar compound is not more than 10 nm.

4. (original) The lamination product according to claim 1, wherein the aspect ratio of the inorganic lamellar compound is in the range of 30 to 50.

5. (original) The lamination product according to claim 1, wherein the cation exchange capacity of the inorganic lamellar compound is not less than 30 meq/10 g.

6. (original) The lamination product according to claim 1, wherein the layer surface of the inorganic lamellar compound has been chemical treated with an organic ammonium salt.

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7. (currently amended) The lamination product according to claim 1, wherein the inorganic lamellar compound comprises one or more of clayey grayey minerals.

8. (original) The lamination product according to claim 1, wherein the inorganic lamellar compound includes at least lamellar silicate.

9. (original) The lamination product according to claim 1, wherein the volume ratio of (inorganic lamellar compound/resin) in the resin composition is in the range of (5/95) to (40/60).

10. (currently amended) The lamination product according to claim 1, wherein the polyamide resin which is the constituent of the resin composition for the barrier layer comprises a crystalline polyamide, or a blend of a crystalline polyamide and aliphatic polyamide.

11. (currently amended) The lamination product according to claim 1, wherein the polyamide resin which is the constituent of the resin composition for the barrier layer comprises nylon MXD6 resin (N-MXD6) or a blend of N-MXD6 and an aliphatic polyamide.

12. (original) The lamination product according to claim 1, wherein the outermost layer comprises a polyolefin type resin having a heat-seal ability.

13. (original) The lamination product according to claim 1, wherein the paper base is that having a weighing in the range of 80 to 600 g/m².

14. (Cancelled)

15. (Cancelled)

16. (currently amended) The lamination product according to claim 1, wherein the lamination product comprises the [[an]] outermost layer of polyolefin type

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resin, the [[an]] paper base, the [[a]] barrier layer made of a coating film of a resin composition comprising a resin and an inorganic lamellar compound, an adhesive resin layer, and the [[an]] innermost layer of polyolefin type resin.

17. (currently amended) The lamination product according to claim 1, wherein the lamination product comprises the [[an]] outermost layer of polyolefin type resin, the [[a]] paper base, a thermoplastic resin layer of polyolefin type resin, an adhesive resin layer, the [[a]] barrier layer made of a coating film of a resin composition comprising a resin and an inorganic lamellar compound, another adhesive resin layer, and the [[an]] innermost layer of polyolefin type resin.

18. (currently amended) A carton for liquid which is manufactured by using a lamination product which comprises at least of an outermost layer, a paper base and a barrier layer, an innermost layer layered in this order,

wherein the barrier layer is made of a coating film of a resin composition comprising a polyamide resin and an inorganic lamellar compound, and
wherein the innermost layer comprises an ethylene- α -olefin copolymer
polymerized with a metallocene catalyst; and
subjecting the lamination product to box-forming.

19. (currently amended) The carton for liquid according to claim 16, wherein each layer of the inorganic lamellar compound has a size in the planar direction within the range of 3 to 5000 nm, in a state that and the inorganic lamellar is subjected to delaminated completely delamination.

20. (original) The carton for liquid according to claim 18, wherein the thickness of each layer of the inorganic lamellar compound is not more than 10 nm.

21. (original) The carton for liquid according to claim 18, wherein the aspect ratio of the inorganic lamellar compound is in the range of 30 to 50.

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22. (original) The carton for liquid according to claim 18, wherein the cation exchange capacity of the inorganic lamellar compound is not less than 30 meq/10 g.

23. (original) The carton for liquid according to claim 18, wherein the layer surface of the inorganic lamellar compound has been chemical treated with an organic ammonium salt.

24. (currently amended) The carton for liquid according to claim 18, wherein the inorganic lamellar compound comprises one or more of clayey erayey minerals.

25. (original) The carton for liquid according to claim 18, wherein the inorganic lamellar compound includes at least lamellar silicate.

26. (original) The carton for liquid according to claim 18, wherein the volume ratio of (inorganic lamellar compound/resin) in the resin composition is in the range of (5/95) to (40/60).

27. (currently amended) The carton for liquid according to claim 18, wherein the polyamide resin which is the constituent of the resin composition for the barrier layer comprises a crystalline polyamide, or a blend of a crystalline polyamide and aliphatic polyamide.

28. (currently amended) The carton for liquid according to claim 18, wherein the polyamide resin which is the constituent of the resin composition for the barrier layer comprises nylon MXD6 resin (N-MXD6) or a blend of N-MXD6 and an aliphatic polyamide.

29. (original) The carton for liquid according to claim 18, wherein the outermost layer comprises a polyolefin type resin having a heat-seal ability.

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30. (original) The carton for liquid according to claim 18, wherein the paper base is that having a weighing in the range of 80 to 600 g/m².

31. (Cancelled)

32. (Cancelled)

33. (currently amended) The carton for liquid according to claim 18, wherein the lamination product comprises the [[an]] outermost layer of polyolefin type resin, the [[a]] paper base, the [[a]] barrier layer made of a coating film of a resin composition comprising a resin and an inorganic lamellar compound, an adhesive resin layer, and the [[an]] innermost layer of polyolefin type resin.

34. (currently amended) The carton for liquid according to claim 18, wherein the lamination product comprises the [[an]] outermost layer of polyolefin type resin, the [[a]] paper base, a thermoplastic resin layer of polyolefin type resin, an adhesive resin layer, the [[a]] barrier layer made of a coating film of a resin composition comprising a resin and an inorganic lamellar compound, another adhesive resin layer, and the [[an]] innermost layer of polyolefin type resin.

35. (new) The lamination product according to claim 1, wherein the ethylene- α -olefin copolymer is a copolymer of ethylene and at least one α -olefin selected from the group consisting of propylene, 1-butene, 3-methyl-1-butene, 4-methyl-1-pentene, 1-hexene, 1-octene and decene, and the mixing ratio of the α -olefin to the ethylene is in the range of 1 to 50% by the weight.

36. (new) The carton for liquid according to claim 18, wherein the ethylene- α -olefin copolymer is a copolymer of ethylene and at least one α -olefin selected from the group consisting of propylene, 1-butene, 3-methyl-1-butene, 4-methyl-1-pentene, 1-hexene, 1-octene and decene, and the mixing ratio of the α -olefin to the ethylene is in the range of 1 to 50% by the weight.